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APPLICANT : MITSUI TOATSU CHEM INC;

INVENTOR :- ISHINO MOTOATSU;

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: C09D 5/03 C09D 5/03 C08G 59/20 C09D133/14 C09D151/04

TITLE

: IMPACT-RESISTANT POWDER COATING COMPOSITION

ABSTRACT: PURPOSE: To obtain a powder coating composition having excellent impact resistance, weather resistance, acid resistance, solvent resistance and hardness of coating film, containing an acrylic copolymer prepared by the polymerization of an epoxy group-containing monomer, a polyfunctional carboxylic acid and a specific graft

copolymer.

CONSTITUTION: This composition contains (A) an acrylic copolymer prepared by polymerizing an epoxy group-containing monomer (e.g. glycidyl methacrylate) and/or a copolymerizable monomer [e.g. methyl (meth)acrylate], (B) a polyfunctional carboxylic acid (e.g. adipic acid or dodecanedioic acid) and (C) a graft copolymer comprising a synthetic rubber obtained by polymerizing a diene monomer (e.g. butadiene or isoprene) and/or an unsaturated monomer (e.g. 2-ethylhexyl acrylate) as a core component and a vinyl polymer [e.g. a (co)polymer of hydroxyethyl (meth)acrylate, (meth)acrylic acid or styrene] as a shell component.

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- [003] 018; G0022-R D01 D51 D53 D23 D22 D73 D42 F47; G0340-R G0339 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D63 F41 F89 G0384-R D11 D87 D88 D89 D90 D91 D92 D93 D94 D95; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D76 D88; P0464-R D01 D22 D42 F47; M9999 M2073; L9999 L2391; L9999 L2073; S9999 S1514 S1456; K9461; H0033 H0011; P1741; P0088;
- [004] 018; ND01; Q9999 Q7158-R Q7114; B9999 B4988-R B4977 B4740; B9999 B5094 B4977 B4740; B9999 B3816 B3747; B9999 B4728 B4568; B9999 B5276-R; K9483-R; K9676-R; K9687 K9676; K9712 K9676; K9745-R; N9999 N6144; N9999 N6780-R N6655; K9665; K9949;

- [005] 018; B9999 B5618 B5572;

---[006]-018-;--A999-A157-R-;

A02 - [001] 018; P0839-R F41 D01 D63; M9999 M2073; L9999 L2391; L9999 L2073; S9999 S1514 S1456; K9461;

- [002] 018; ND01; Q9999 Q7158-R Q7114; B9999 B4988-R B4977 B4740; B9999 B5094 B4977 B4740; B9999 B3816 B3747; B9999 B4728 B4568; B9999 B5276-R; K9483-R; K9676-R; K9687 K9676; K9712 K9676; K9745-R; N9999 N6144; N9999 N6780-R N6655; K9665; K9949;
- [003] 018; A999 A157-R;

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XP-002201175

AN - 1999-267350 [23]

AP - JP19970238757 19970904

CPY - KAPA

DC - A13 A14 A82 G02

FS - CPI

IC - C08J3/12; C09D5/03; C09D157/06; C09D163/00

MC - A04-F06E7 A05-E01D1 A07-A04D A08-C01 A12-B01E G02-A02C1 G02-A02E

PA - (KAPA) KANSAI PAINT CO LTD

PN - JP11080606 A 19990326 DW199923 C09D5/03 006pp

PR - JP19970238757 19970904

XA - C1999-079350

XIC - C08J-003/12; C09D-005/03; C09D-157/06; C09D-163/00

AB - J11080606 Producing a heat curable powder paint comprises preparing a solution of (A) a radically polymerised copolymer below, (B) a polyester resin having a no. av. mol. wt. of 400-5,000, (C) a crosslinking agent having a functional gp. to react with glycidyl gp. which are dissolved in a solvent (D) comprising 50-100 wt% tert-butanol, 0-50 wt% dioxane and 0-20 wt% another solvent other than the above and making it powder by freeze drying in vacuo. (A): a copolymer of 20-50 wt% (a) a vinyl monomer having glycidyl gp., 50 - 80 wt% (b) another radically polymerisable vinyl monomer contg.than the above Also claimed are the following. The solvent comprises at least 80 wt% tert-butanol. The copolymer (A) has a glass transition temp. of 40-100 deg. C and a no. av. mol. wt. of 1,000-10,000. The copolymer is a copolymer of 0-35 wt% styrene and 20-65 wt% a (meth) acrylate having at least 4C branched or cyclic substituent at the side chain

 ADVANTAGE - The heat curable powder paint made by the method gives a coating film having improved scratch resistance, weatherability and surface appearance.

- (Dwg.0/0)

IW - HEAT CURE POWER PAINT MANUFACTURE PREPARATION SOLUTION RADICAL POLYMERISE COPOLYMER POLYESTER RESIN CROSSLINK AGENT

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NC - 001

OPD - 1997-09-04

ORD - 1999-03-26

PAW - (KAPA) KANSAI PAINT CO LTD

TI - Heat curable power paint manufacture - by preparing a solution of radically polymerised copolymer, polyester resin, crosslinking agent etc.

A01 - [001] 018; H0022 H0011; G0022-R D01 D51 D53 D23 D22 D73 D42 F47; G0340-R G0339 G0260 G0022 D01 D12 D10 D26 D51 D53 D58 D63 F41 F89 G0384-R D11 D87 D88 D89 D90 D91 D92 D93 D94 D95; P0464-R D01 D22 D42 F47; M9999 M2073; L9999 L2391; L9999 L2073; S9999 S1514 S1456; K9461; P0088;

- [002] 018; H0022 H0011; G0022-R D01 D51 D53 D23 D22 D73 D42 F47; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D76 D88; P0464-R D01 D22 D42 F47; M9999 M2073; L9999 L2391; L9999 L2073; S9999 S1514 S1456; K9461; P1741;

GOO!